United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Idaho
Basin Outlook Report
January 1, 1996

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

For more water supply and resource management information, contact:

Your local Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
3244 Elder Street, Room 124
Boise, ID 83705-4711
(208) 378-5740

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

IDAHO WATER SUPPLY OUTLOOK REPORT

JANUARY 1, 1996

SUMMARY

Warm temperatures and heavy rainfall have dominated Idaho's winter so far. Due to the unusually warm weather, low elevation snowpacks are practically non-existent. Most of the high elevations throughout the state, however, are reporting near to above average snowpacks. Excellent carryover storage in almost all of the state's reservoirs will help ensure adequate water supplies this summer.

SNOWPACK

A very strong elevational effect is apparent in Idaho's mountain snowpack this year. Warm temperatures during the fall caused much of the mountain precipitation to fall as rain, especially in the lower elevations. Consequently, low elevation snowpacks are practically non-existent. Snowpacks currently range from above average in the upper Snake River basin to much below average in the desert southwest and other low elevation watersheds. Most of the central Idaho basins report near average snowpack conditions, while northern Idaho snowpacks are below average. With the snow accumulation season less than half over, current conditions could change significantly over the remainder of the winter.

PRECIPITATION

The 1996 water year started out with a bang in northern Idaho. The Panhandle and Clearwater basins have received one and a quarter times their normal complement of precipitation since the water year began October 1 -- most of it in the form of rain. Precipitation has been above normal in most of central Idaho and the Bear River area. Watersheds south of the Snake River and those in the upper Snake River basin are reporting near normal precipitation values. Unusually warm temperatures in November and December caused much of the moisture to fall as rain, keeping the snowline much higher than normal throughout the state. Pocatello tied for the third warmest November on record, and set a new record high for the month of December with 64 degrees on December 1.

RESERVOIRS

Storage is excellent in most of Idaho's reservoirs this year thanks to good carryover from last summer and heavy fall rains. Northern Idaho lakes are reporting above normal storage values due to the high inflows this fall. Reservoirs in the Snake, Boise, Payette, Wood, and Lost River basins are all reporting above normal storage for this time of year. Even the small reservoirs south of the Snake River are reporting good storage. Carryover storage is a comforting "insurance policy" this year that will help ensure adequate water supplies this summer. Bear Lake is the only major reservoir in the state reporting below normal storage -- a legacy of a string of drought years yet to be overcome.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in the back of this report.

STREAMFLOW

Heavy rains this fall produced high flows in many parts of the state. The Selway and Lochsa rivers (in the Clearwater basin) both reported more than four times their normal runoff during November and December. The St. Joe and Coeur d'Alene rivers in northern Idaho exceeded flood stage in late November and early December, causing some damage to culverts and roads. Heavy rains worked their way into central Idaho during December, with the Boise, Payette and Salmon rivers all producing well above average flows during the month. The current outlook for summer streamflows calls for below normal runoff in the northern and southern extremes of Idaho, and near to above average runoff for central Idaho watersheds and the upper Snake River.

RECREATION OUTLOOK

Good snowpacks and excellent reservoir storage promise abundant recreational opportunities for central Idaho in 1996. Snowpacks in the Salmon River basin are above normal, indicating the potential for a long river running season with high water in the spring. Excellent carryover storage in Cascade and Deadwood reservoirs promises a long boating season in the Payette basin. On a less positive note, snowpacks are below normal in northern Idaho and the desert southwest. Unless conditions change, the floating season could be short in these areas this year. Excellent carryover storage in most major reservoirs in the state promises a long season of lake based recreation this year.

IDAHO SURFACE WATER SUPPLY INDEX (SWSI)
As of January 1, 1996

The surface water supply index (swsi) is predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

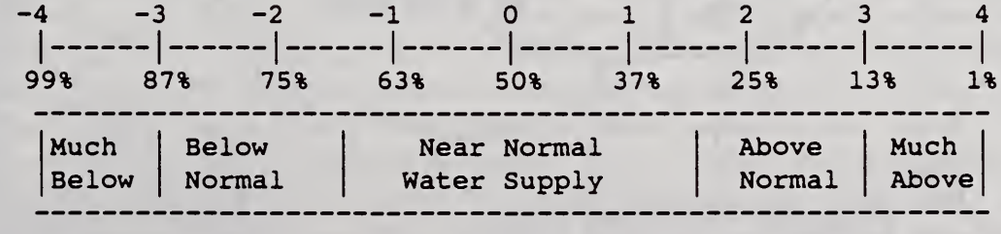
SWSI values are published January through May, and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US Department of Commerce, National Weather Service
US Bureau of Reclamation
Idaho Water Users Association
US Army Corps of Engineers
Idaho Department of Water Recourses
PacifiCorp

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-1.6	1983	NA
CLEARWATER	1.8	1993	NA
SALMON	1.7	1983	NA
WEISER	-1.5	1985	NA
PAYETTE	2.3	1986	NA
BOISE	1.8	1986	-2.6
BIG WOOD	1.2	1978	-1.4
LITTLE WOOD	0.9	1993	-2.1
BIG LOST	0.8	1981	-0.8
LITTLE LOST	2.4	1983	0.0
HENRYS FORK	0.5	1985	-3.3
SNAKE (AMERICAN FALLS)	1.2	1980	-2.0
OAKLEY	0.7	1982	0.0
SALMON FALLS	2.0	1982	0.0
BRUNEAU	0.5	1989	NA
OWYHEE	0.6	1993	NA
BEAR RIVER	-3.0	1990	-3.8

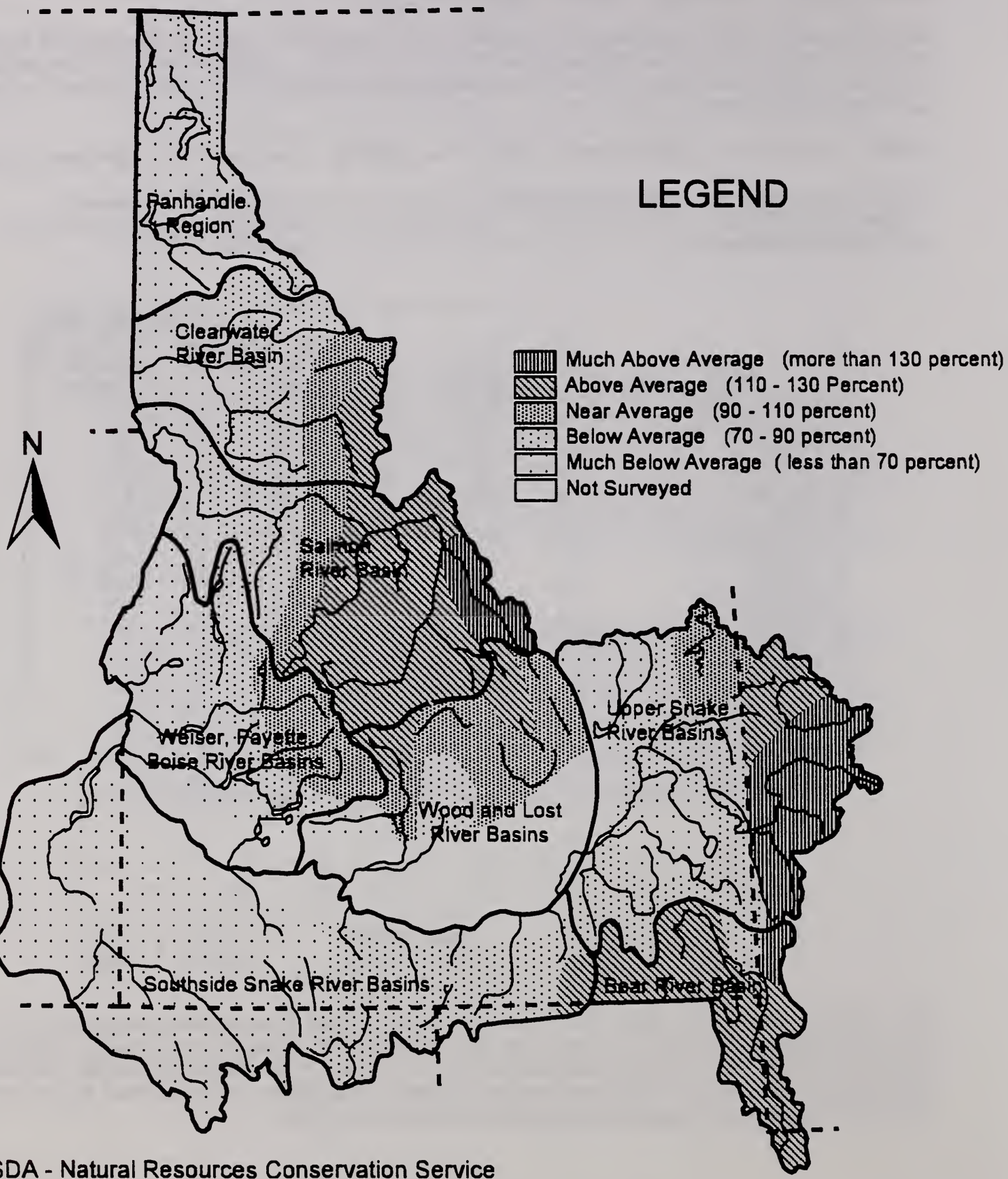
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply", represents three SWSI units and would be expected to occur about one third (36%) of the time.

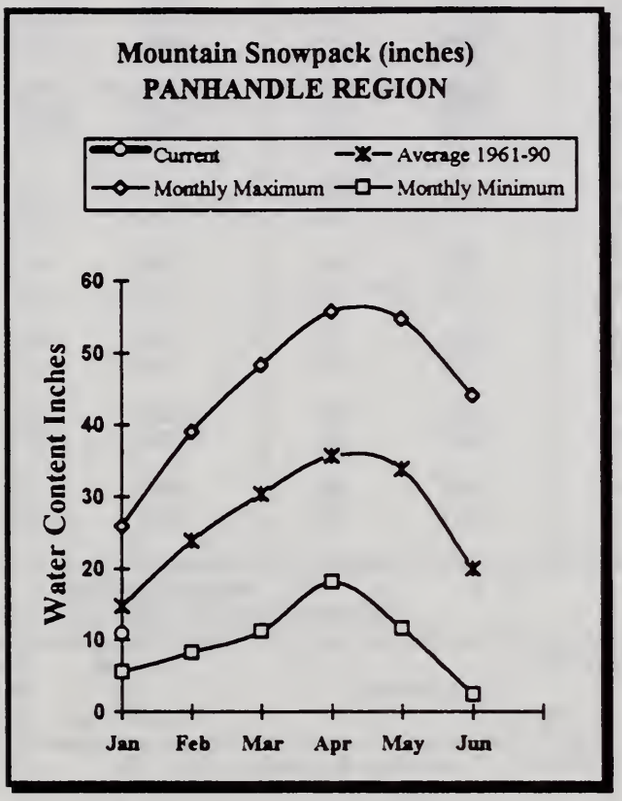
Idaho Mountain Snowpack

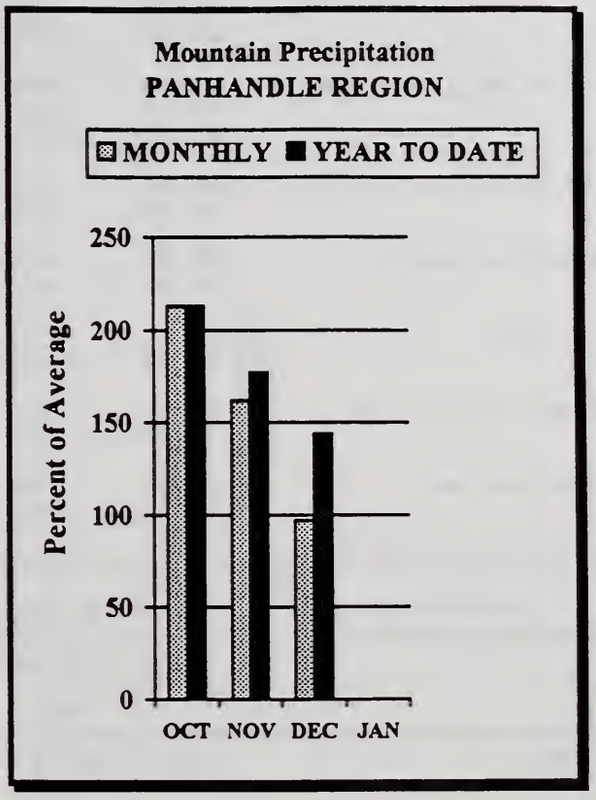
January 1, 1996



USDA - Natural Resources Conservation Service

PANHANDLE REGION
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

Heavy rains and warm temperatures have been the story in the Idaho panhandle this year. Mountain precipitation for the water year to date is currently 144% of average, but warm temperatures caused most of this moisture to fall as rain. Consequently, most snowpacks range from only 40 to 70% of average, and low elevation snowpacks are practically non-existent. The Kootenai, Pend Oreille, and Moyie basins report near average snowpacks due to their higher elevations. Heavy rains in November and December caused flooding on the Coeur d'Alene and St. Joe Rivers, with some damage reported to roads and culverts. Inflow to the major lakes in the Panhandle was well above average, Coeur d'Alene and Priest Lakes are now reporting above normal levels. Due to the low snowpack conditions, however, most streamflow forecasts call for below normal flows this spring and summer, ranging from 88% of average for the Spokane River to 126% for the Kootenai River. Cooler temperatures and heavy snowfall will be needed during the remainder of the winter to significantly improve snowpack conditions.

PANHANDLE REGION
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUN	4880	6190	6780	119	7370	8680	5701
	APR-JUL	6230	7860	8600	119	9340	11000	7199
	APR-SEP	7160	9030	9880	119	10700	12600	8275
CLARK FK at Whitehorse Rpds (1,2)	APR-JUN	7040	9940	11250	112	12600	15500	10050
	APR-JUL	8070	11500	13000	111	14500	17900	11730
	APR-SEP	8870	12600	14300	111	16000	19700	12910
PEND OREILLE Lake Inflow (1,2)	APR-JUN	7560	11100	12640	111	14200	17700	11390
	APR-JUL	9320	13000	14700	112	16400	20100	13150
	APR-SEP	10100	14200	16000	111	17800	21900	14370
PRIEST nr Priest River (1,2)	APR-JUL	570	785	880	108	975	1190	814
	APR-SEP	610	835	940	108	1040	1270	868
COEUR D'ALENE at Enaville	APR-JUL	440	595	700	91	805	960	770
	APR-SEP	470	625	735	91	845	1000	809
ST.JOE at Calder	APR-JUL	745	925	1050	90	1170	1350	1169
	APR-SEP	800	985	1110	90	1240	1420	1237
SPOKANE near Post Falls (2)	APR-JUL	1540	2010	2330	88	2650	3120	2633
	APR-SEP	1610	2090	2410	88	2730	3210	2730
SPOKANE at Long Lake	APR-JUL	1770	2260	2590	88	2920	3410	2936
	APR-SEP	1930	2440	2780	88	3120	3630	3159

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	3231.0	1716.0	2586.0
FLATHEAD LAKE		NO REPORT		
NOXON RAPIDS		NO REPORT		
PEND OREILLE	1561.3	901.2	545.2	744.9
COEUR D'ALENE	238.5	146.5	115.5	130.5
PRIEST LAKE	119.3	78.0	58.0	54.8

PANHANDLE REGION
Watershed Snowpack Analysis - January 1, 1996

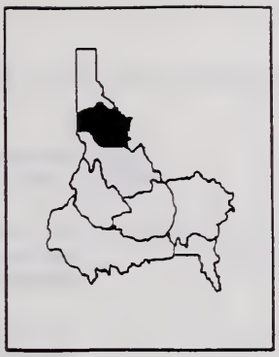
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	14	94	112
Moyie River	2	99	95
Priest River	4	37	54
Pend Oreille River	65	86	100
Rathdrum Creek	4	16	29
Hayden Lake	0	0	0
Coeur d'Alene River	5	41	46
St. Joe River	2	54	70
Spokane River	11	35	47
Palouse River	1	32	52

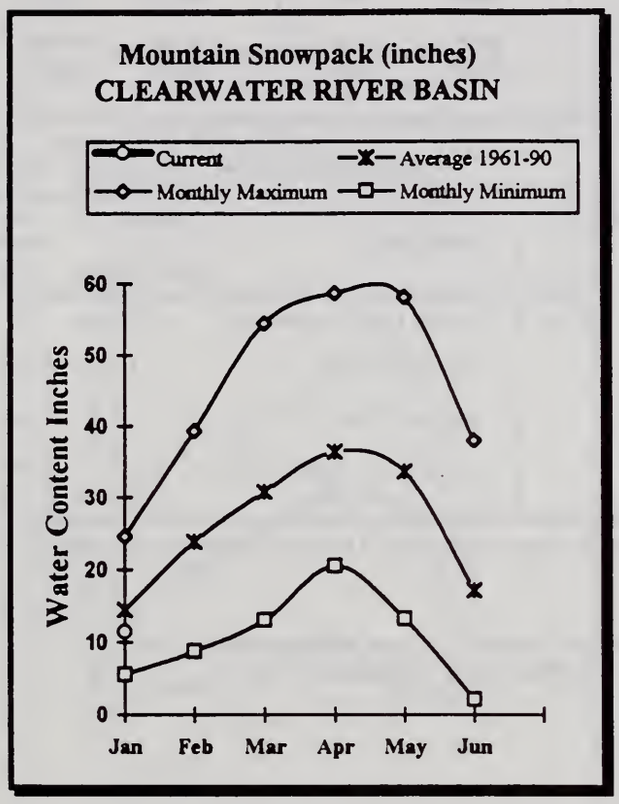
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

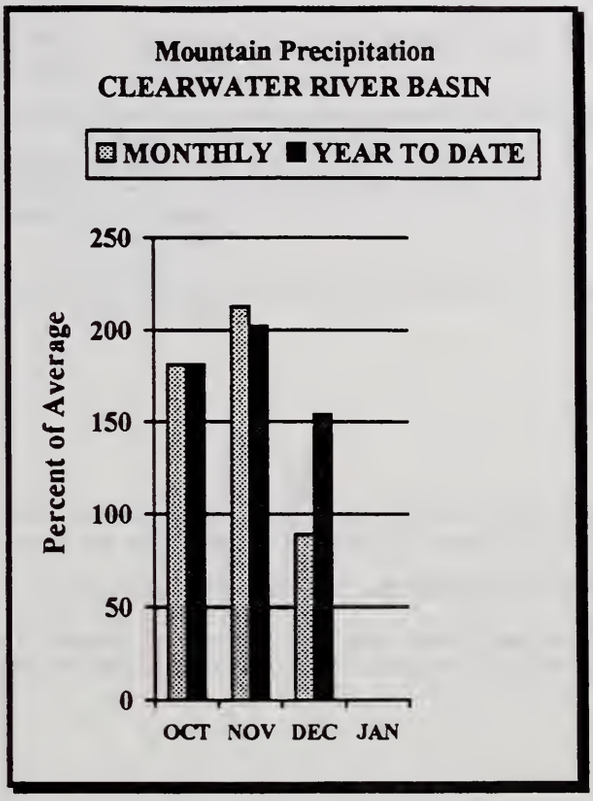
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN
JANUARY 1, 1996







WATER SUPPLY OUTLOOK

Like the Panhandle region, the Clearwater basin received heavy rains during October and November, resulting in high flows for many streams. The Clearwater River at Orofino reported near record daily high flows in late November and early December. Dworshak reservoir is currently storing 111% of its normal volume for this time of year. Because of the warm temperatures, much of the fall moisture fell in the form of rain, resulting in below normal snowpacks for most of the basin. The higher elevation Selway and Lochsa watersheds, however, both report above normal snowpacks at the present time. Streamflow forecasts call for near to below normal volumes next summer, reflecting the overall snowpack conditions. The projected runoff for the Clearwater at Orofino is 106% of average while Dworshak Reservoir inflow is forecast to be 80% of average. With more than half of the snow accumulation season yet to come, conditions could easily change before the spring runoff begins.

CLEARWATER RIVER BASIN
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DWORSHAK RESV INFLOW (2)	APR-JUL	1420	1870	2167	80	2470	2910	2692
	APR-SEP	1540	2000	2310	81	2620	3080	2866
CLEARWATER at Orofino (1)	APR-JUL	2790	4310	5000	106	5690	7210	4718
	APR-SEP	2950	4550	5280	106	6010	7610	4976
CLEARWATER at Spalding (1,2)	APR-JUL	4270	6840	8010	105	9180	11700	7618
	APR-SEP	4440	7160	8400	104	9640	12400	8052

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3459.0	2693.4	1903.0	2431.0

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - January 1, 1996

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	10	54	67
Lochsa River	3	102	118
Selway River	5	106	116
Clearwater Basin Total	16	69	83

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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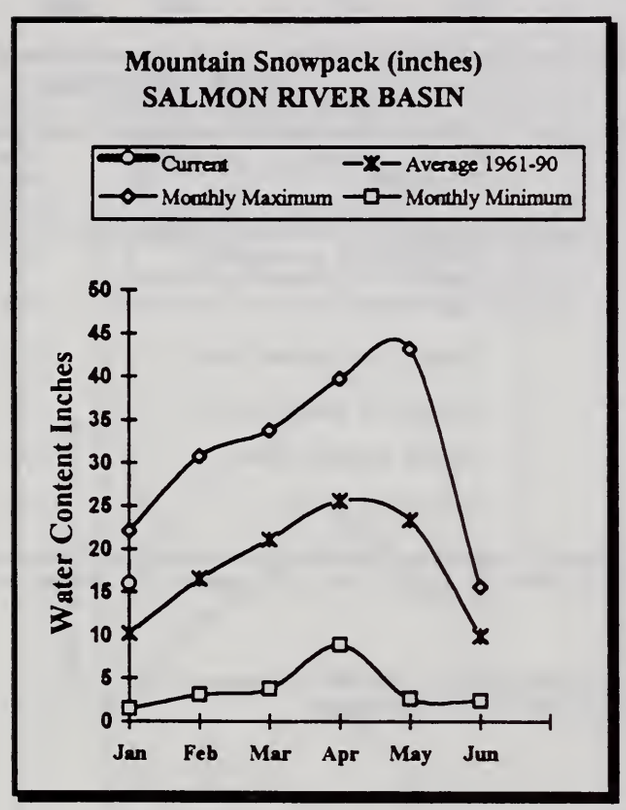
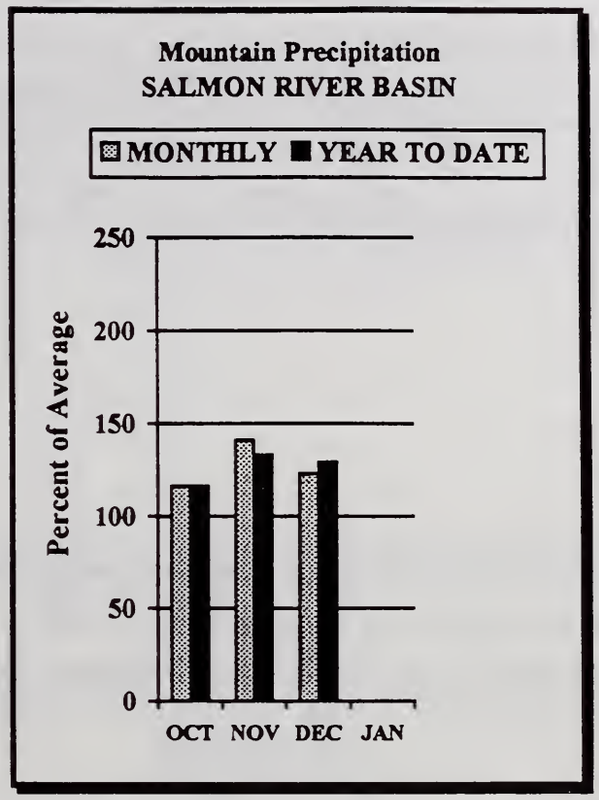
SALMON RIVER BASIN
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

October, November, and December were wet months in the Salmon basin. In spite of the relatively warm temperatures, the high elevations received most of this moisture in the form of snow. Snowpacks are currently above average, ranging from 131% of average in the Lemhi basin to 102% in the South Fork Salmon basin. On a contrasting note, the low elevation Little Salmon watershed is only reporting 64% of normal snowpack. Streamflow forecasts reflect the generally positive snowpack values, and call for 112% of average runoff for the Salmon at White Bird. If the wet trend continues, there should be more than enough water for agricultural, recreational, and other uses in the Salmon basin this year.

SALMON RIVER BASIN
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	515	815	955	110	1090	1400	869
	APR-SEP	600	960	1120	110	1280	1640	1019
SALMON at White Bird (1)	APR-JUL	4330	5950	6680	112	7410	9030	5956
	APR-SEP	4800	6590	7400	112	8210	10000	6602

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - January 1, 1996

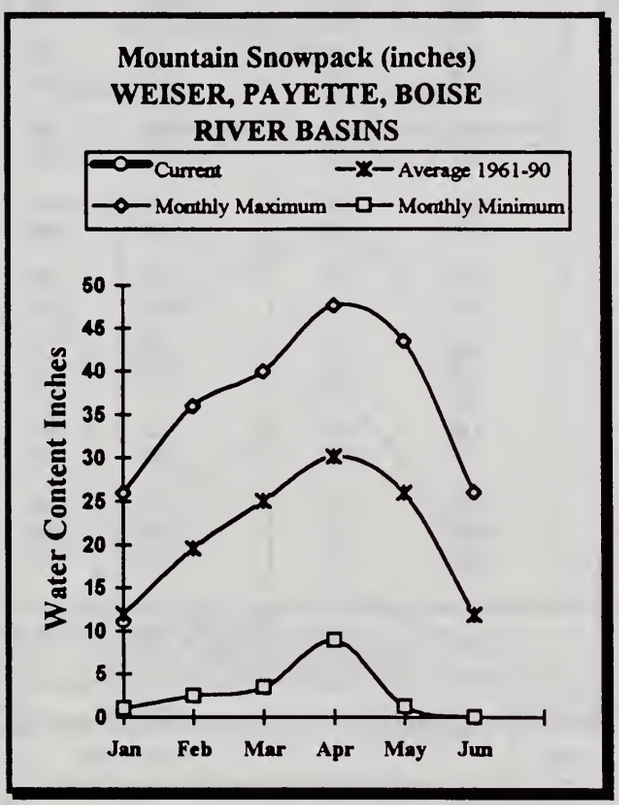
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	131	128
Lemhi River	4	117	131
Middle Fork Salmon River	3	107	112
South Fork Salmon River	3	85	102
Little Salmon River	4	52	64
Salmon Basin Total	23	99	110

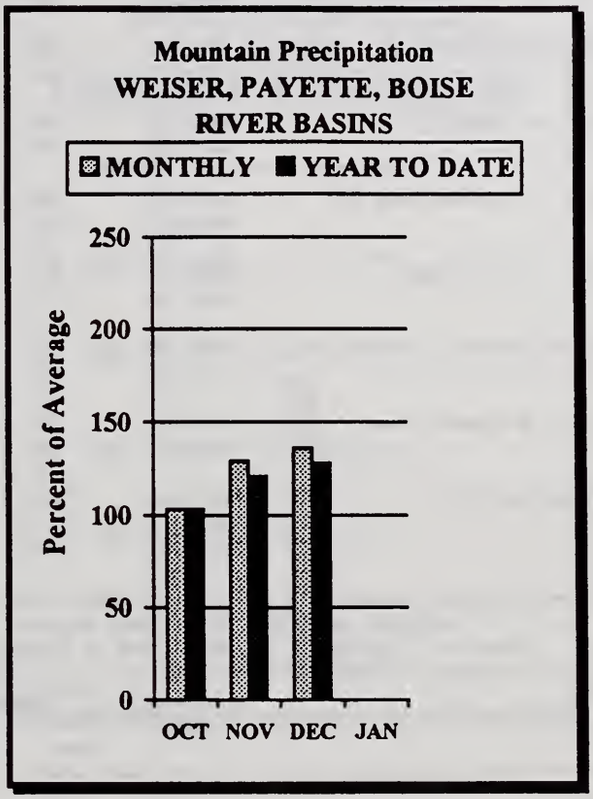
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

Precipitation in the west central mountains has been above average since the water year began October 1. Heavy rains in mid-December produced high streamflows in the area; the Boise River near Twin Springs reported a daily average flow of 3,845 cubic feet per second on December 13 -- the highest daily flow in winter since December, 1964. Warm temperatures have caused an unusually high snowline this year, and low elevation snowpacks are practically non-existent. The higher elevations have received good snowfall, however, and are reporting near average snowpack conditions for January 1. Snowpacks range from 106% of average in the South Fork Boise drainage to only 13% of average in the low elevation Canyon Creek basin. Reservoir storage is above normal in both the Boise and Payette basins, the result of good carryover from last year and above average flows this fall. Runoff prospects for the spring and summer look encouraging, with streamflow forecasts ranging from 105 to 115% of average. Unless conditions change dramatically for the remainder of the winter, water supplies should be more than adequate for the summer of 1996.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER nr Weiser (1)	APR-JUL	81	250	325	84	400	570	386
	APR-SEP	89	270	350	84	430	610	415
SF PAYETTE at Lowman	APR-JUL	350	435	490	113	550	630	432
	APR-SEP	415	505	566	116	630	720	488
DEADWOOD RESERVOIR Inflow (2)	APR-JUL	119	140	155	115	170	192	135
	APR-SEP	128	151	166	116	181	205	143
NF PAYETTE nr Cascade (2)	APR-JUL	390	490	555	112	620	720	496
	APR-SEP	410	515	585	110	655	760	533
NF PAYETTE nr Banks (2)	APR-JUL	475	610	700	115	790	925	607
	APR-SEP	530	675	770	112	865	1010	690
PAYETTE nr Horseshoe Bend (2)	APR-JUL	1300	1620	1830	113	2040	2360	1618
	APR-SEP	1370	1710	1930	110	2150	2490	1755
BOISE near Twin Springs	APR-JUL	530	645	725	115	805	920	631
	APR-SEP	600	720	800	117	880	1000	686
SF BOISE at Anderson Rnch Dm (1,2)	APR-JUL	405	555	620	114	685	835	544
	APR-SEP	450	600	670	115	740	890	582
MORES CK nr Arrowrock Dam	APR-JUL	99	123	138	107	154	177	129
	APR-SEP	104	128	144	107	159	183	134
BOISE nr Boise (1,2)	APR-JUN	1000	1310	1450	115	1590	1900	1264
	APR-JUL	1070	1440	1605	113	1770	2140	1421
	APR-SEP	1190	1580	1750	114	1920	2310	1535

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	3.9	0.9	4.2
CASCADE	703.2	639.8	355.6	419.7
DEADWOOD	161.9	129.4	53.1	73.7
ANDERSON RANCH	464.2	419.6	57.2	319.9
ARROWROCK	286.6	195.6	88.2	193.8
LUCKY PEAK	293.2	141.3	69.0	94.5
LAKE LOWELL (DEER FLAT)	177.1	138.9	30.9	126.0

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - January 1, 1996

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	38	55
Weiser River	3	44	56
North Fork Payette	7	55	73
South Fork Payette	4	87	94
Payette Basin Total	12	64	80
Middle & North Fork Boise	7	86	96
South Fork Boise River	7	101	106
Mores Creek	4	42	62
Boise Basin Total	14	74	87
Canyon Creek	1	9	13

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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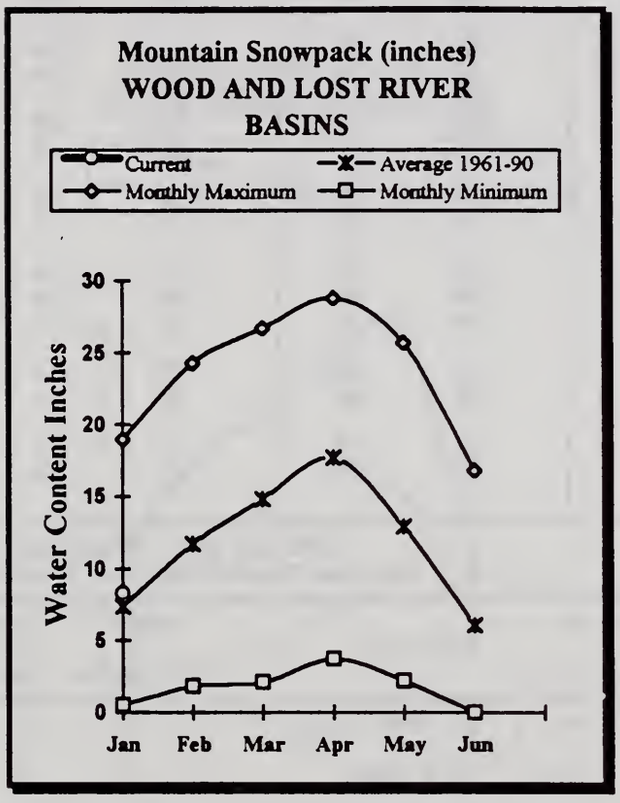
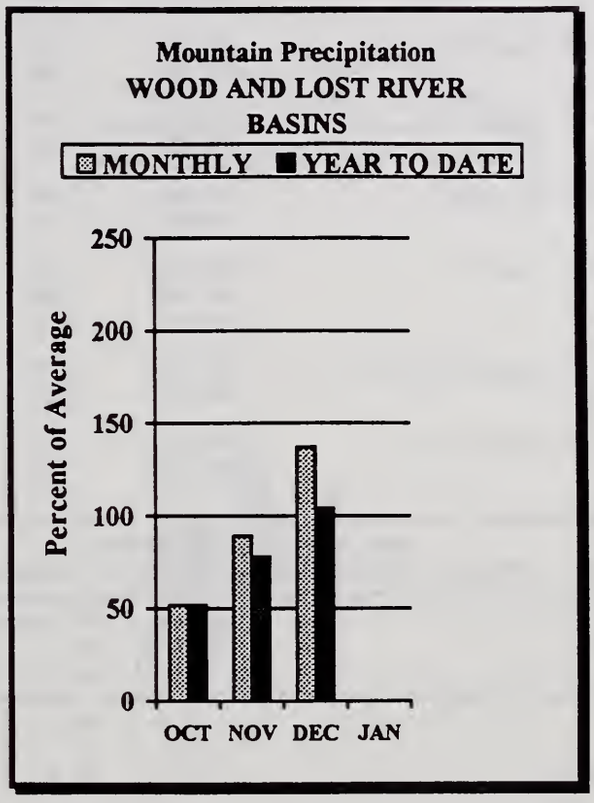
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

The high elevation watersheds of the Wood and Lost rivers received good snowfall during the first three months of the water year, while lower elevation basins were being deluged with rain. Consequently, snowpacks are somewhat above average in the Big Wood and the Lost River basins, while lower elevation watersheds, such as Camas Creek and the Little Wood, are reporting below normal snowpack conditions. The high runoff volumes of last year left excellent carryover storage in Magic, Little Wood, and Mackay reservoirs. Although streamflow forecasts are near average, the overall water supply outlook for 1996 looks very positive. The Surface Water Supply Index (SWSI), an indicator that combines both reservoir storage and expected runoff, has values around +1.0 (for individual basins) on the SWSI scale of -4 to +4. This value has historically been exceeded just 37% of the time.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD near Hailey	APR-JUL	162	215	255	100	295	350	255
	APR-SEP	175	240	280	97	320	385	289
BIG WOOD near Bellevue	APR-JUL	100	156	194	106	230	290	183
	APR-SEP	109	166	205	104	245	300	197
CAMAS CREEK near Blaine	APR-JUL	42	72	93	92	114	145	102
	APR-SEP	43	73	94	92	115	146	103
MAGIC RESV INFLOW	APR-JUL	169	245	300	102	355	430	295
	APR-SEP	172	250	305	99	360	440	310
LITTLE WOOD nr Carey	APR-JUL	48	75	94	102	113	140	92
	APR-SEP	51	80	99	100	118	147	99
BIG LOST at Howell	APR-JUN	87	119	140	99	161	192	141
	APR-JUL	108	151	179	99	210	250	181
	APR-SEP	127	173	205	99	235	280	206
BIG LOST blw Mackay Reservoir (2)	APR-JUL	99	131	153	102	175	205	150
	APR-SEP	126	159	182	100	205	240	182
LITTLE LOST blw Wet Creek	APR-JUL	28	33	37	118	40	46	31
	APR-SEP	36	42	47	119	51	58	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	138.6	10.0	39.0
LITTLE WOOD	30.0	23.3	5.9	13.5
MACKAY	44.4	32.2	15.1	26.4

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - January 1, 1996

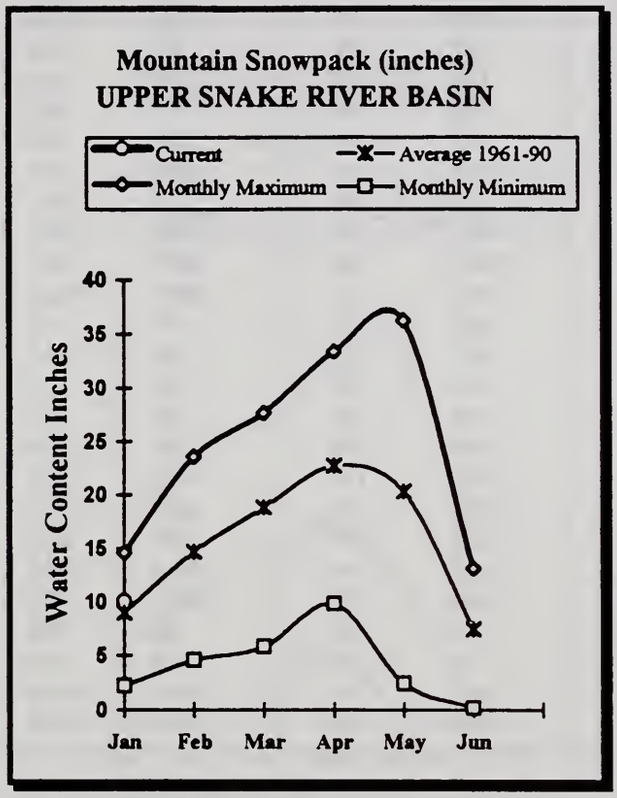
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Magic	8	113	118
Camas Creek	3	46	59
Big Wood Basin Total	11	98	107
Little Wood River	3	72	81
Fish Creek	0	0	0
Big Lost River	5	101	104
Little Lost River	3	113	115

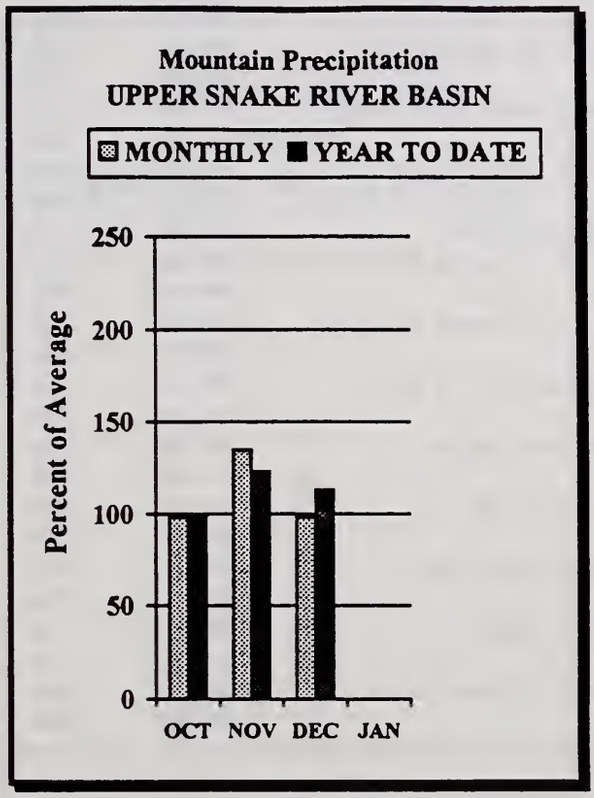
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

The high elevations of the upper Snake River basin report the best snowpacks in the region, ranging from 125 to 144% of average. The Henrys Fork reports 103% of average snowpack, while the lower elevation Teton River and Camas/Beaver Creek basins report 78% and 58% of average, respectively. Streamflow forecasts reflect the snowpack values, and call for 90 to 120% of average runoff values. Thanks to an excellent runoff season last year, reservoir storage is well above average for this time of year. The Surface Water Supply Index (SWSI), an indicator that combines both reservoir storage and expected runoff, calls for a water supply of 1.2 for the Snake (American Falls basin) on a scale of -4 to +4. This value has historically been exceeded 35% of the time. If the current wet trend continues, water supplies should be more than adequate during 1996.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK nr Ashton (2)	APR-JUL	470	530	570	105	610	670	544
	APR-SEP	635	700	745	102	790	855	730
HENRYS FORK nr Rexburg (2)	APR-JUL	980	1130	1230	100	1330	1480	1228
	APR-SEP	1220	1390	1500	97	1610	1780	1551
FALLS RIVER nr Squirrel (2)	APR-JUL	300	340	365	100	390	430	364
	APR-SEP	355	400	432	100	465	510	432
TETON abv S Leigh Ck nr Driggs	APR-JUL	112	140	158	104	177	205	153
	APR-SEP	150	184	207	104	230	265	199
TETON nr St. Anthony (2)	APR-JUL	250	310	349	93	390	450	375
	APR-SEP	295	365	410	90	455	525	454
SNAKE nr Moran (1,2)	APR-SEP	715	910	1000	115	1090	1280	869
SNAKE R abv Palisades Rsvr nr Alpine	APR-JUL	2100	2430	2650	116	2870	3200	2286
	APR-SEP	2400	2780	3040	115	3300	3680	2647
GREYS R abv Palisades Reservoir	APR-JUL	275	335	376	113	415	475	333
	APR-SEP	330	395	440	113	485	550	388
SALT abv Reservoir nr Etna	APR-JUL	260	335	385	120	435	510	320
	APR-SEP	325	410	470	118	530	615	400
PALISADES RSVR INFLOW	APR-JUL	2780	3300	3650	113	4000	4520	3225
	APR-SEP	3250	3820	4210	112	4600	5170	3762
SNAKE nr Heise (2)	APR-JUL	2960	3520	3900	113	4280	4840	3451
	APR-SEP	3440	4090	4530	112	4970	5620	4048
SNAKE nr Blackfoot (2)	APR-JUL	3810	4500	4970	112	5440	6130	4444
	APR-SEP	4830	5610	6140	112	6670	7450	5482
PORTNEUF at Topaz	MAR-JUL	56	69	77	90	86	99	86
	MAR-SEP	70	86	96	90	106	122	107
AMERICAN FALLS RESV INFLOW	APR-JUL	2270	2970	3440	112	3910	4610	3066
	APR-SEP	2390	3170	3700	112	4230	5010	3303

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	88.1	72.9	74.0
ISLAND PARK	135.2	119.6	75.4	88.9
GRASSY LAKE	15.2	12.8	11.7	10.5
JACKSON LAKE	847.0	667.8	376.7	470.2
PALISADES	1400.0	1375.9	408.4	1035.6
RIRIE	80.5	40.6	19.1	36.4
BLACKFOOT	348.7	211.2	100.7	230.6
AMERICAN FALLS	1672.6	1287.6	775.4	1002.4

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - January 1, 1996

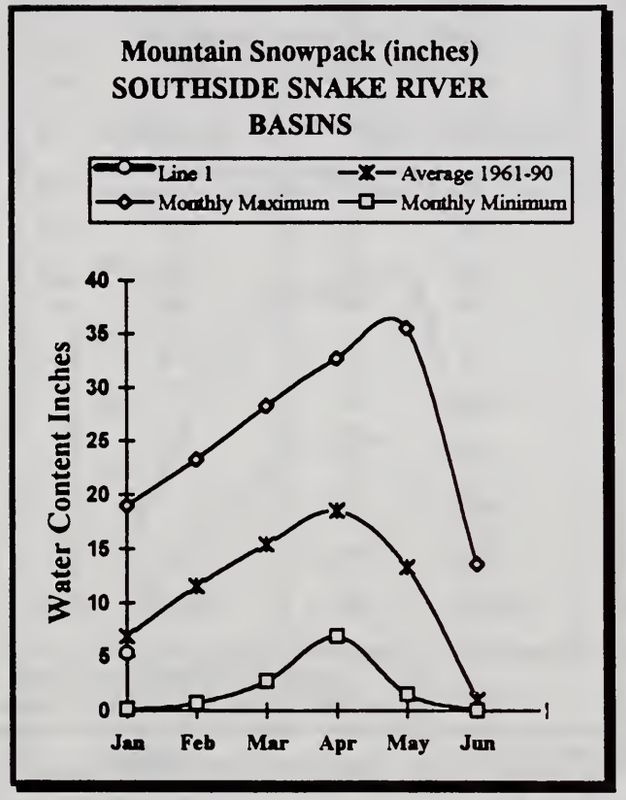
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Camas-Beaver Creeks	4	36	58
Henrys Fork River	10	66	103
Teton River	7	63	78
Snake above Jackson Lake	10	105	125
Gros Ventre River	2	146	143
Hoback River	5	198	143
Greys River	3	177	139
Salt River	4	154	144
Snake above Palisades	23	131	134
Willow Creek	7	46	55
Blackfoot River	3	81	76
Portneuf River	2	103	103
Snake abv American Falls	33	117	121

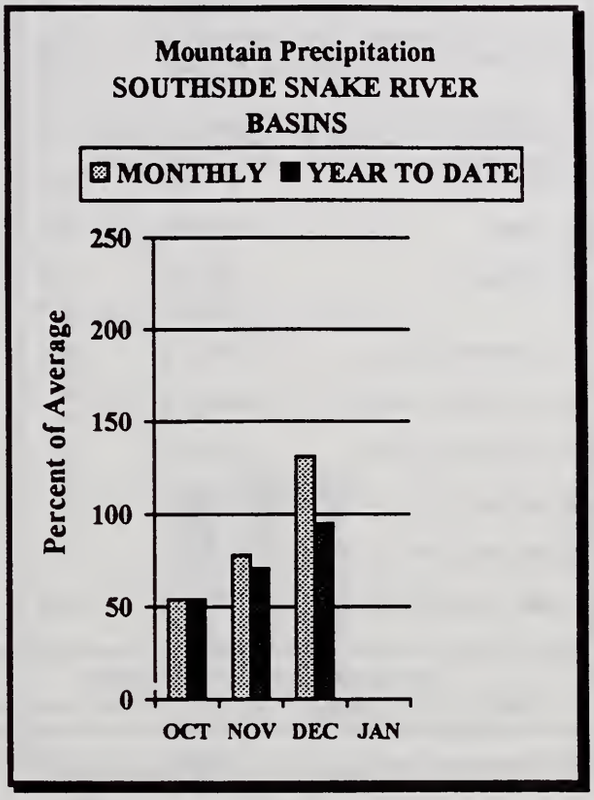
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS JANUARY 1, 1996





WATER SUPPLY OUTLOOK

The southern edge of Idaho reports near normal precipitation amounts for the water year. However, current snowpack figures range from only 40% of average in the Owyhee basin to 96% in the Raft River. Conditions consistently improve from west to east along the southern edge of the state. The extremely low figures in the Owyhee basin are due in part to the low elevation nature of the watershed; warm temperatures this autumn caused much of the moisture to fall as rain. The low snowpack figures translate into low streamflow forecasts as well; current projections range from only 55 to 97% of average runoff this spring and summer. Carryover storage in Owyhee, Salmon Falls, and Oakley Reservoirs is near or slightly above average for this time of year, thanks to the excellent runoff season last year. Unless conditions change during the course of the winter, water supplies could be marginal south of the Snake River next year.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESERVOIR Inflow (2)	MAR-JUL	19.0	27	32	94	37	45	34
	MAR-SEP	20	28	34	92	40	48	37
SALMON FALLS CREEK	MAR-JUN	45	65	80	92	96	123	86
	MAR-JUL	48	68	84	92	101	130	92
	MAR-SEP	51	72	88	92	106	135	96
BRUNEAU nr Hot Spring	MAR-JUL	130	188	229	97	270	330	235
	MAR-SEP	137	198	240	98	280	345	246
OWYHEE nr Gold Ck (2)	MAR-JUL	5.0	13.0	19.0	55	24	32	34
OWYHEE nr Owyhee (2)	APR-JUL	0.0	31	52	60	73	104	86
OWYHEE near Rome	FEB-JUL	125	235	329	53	440	631	622
OWYHEE RESV INFLOW	FEB-JUL	175	294	392	60	505	696	656
	APR-SEP	79	162	234	56	320	471	418
SUCCOR CK nr Jordan Valley	FEB-JUL	0.0	6.2	11.0	68	15.8	23	16.2
SNAKE RIVER at King Hill (2)	APR-JUL			2060	71			2896
SNAKE RIVER near Murphy (2)	APR-JUL			2140	72			2980
SNAKE RIVER at Weiser (2)	APR-JUL			4340	79			5465
SNAKE RIVER at Hells Canyon Dam	APR-JUL			4910	80			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	10800	18300	21700	100	25100	32600	21650

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	77.4	20.6	7.0	23.7
SALMON FALLS	182.6	49.0	13.1	44.9
WILDHORSE RESERVOIR	71.5	37.8	17.8	30.5
OWYHEE	715.0	482.0	86.1	421.0
BROWNLEE	1419.3	1361.7	1305.7	1269.8

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - January 1, 1996

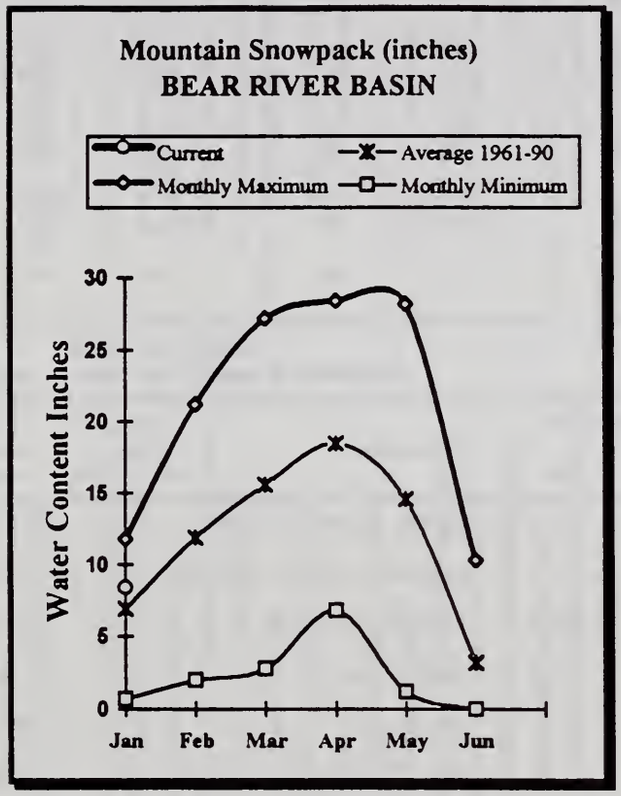
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	115	96
Goose-Trapper Creeks	2	101	91
Salmon Falls Creek	4	89	99
Bruneau River	5	77	92
Owyhee Basin Total	8	28	40

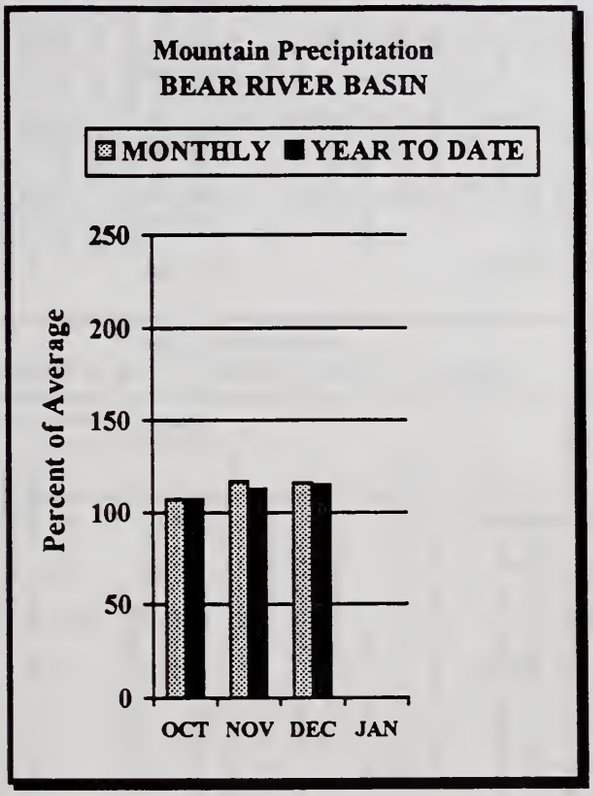
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BEAR RIVER BASIN
JANUARY 1, 1996





WATER SUPPLY OUTLOOK

Precipitation for the water year has been above average in the Bear River basin -- 115% as of January 1. Temperatures have been quite warm this fall; much of the precipitation fell as rain in the lower elevations while snow accumulated in the higher areas. Consequently, snowpacks range from below average in low elevation basins such as Montpelier Creek to above average in the higher watersheds. Streamflow forecasts reflect this distribution of snowpack and call for 80 to 95% of average runoff this summer. Bear Lake is still recovering from a string of low water years and is currently reporting only about half of its normal usable storage. Montpelier Creek Reservoir, however, reports well above normal storage.

BEAR RIVER BASIN
Streamflow Forecasts - January 1, 1996

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BEAR R nr Randolph, UT	APR-JUL	27	75	107	91	140	187	118
	APR-SEP	29	80	115	91	150	200	127
SMITHS FORK nr Border, WY	APR-JUL	69	87	100	98	113	131	102
	APR-SEP	79	100	115	97	130	151	118
THOMAS FK nr WY-ID State Line	APR-JUL	14.0	23	31	94	42	67	33
	APR-SEP	16.0	24	33	92	45	69	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	150	220	265	92	310	380	288
	APR-SEP	173	250	300	92	350	430	327
MONTPELIER CK nr Montpelier (2)	APR-JUL	5.3	7.6	9.6	79	12.2	17.3	12.2
	APR-SEP	6.9	9.2	11.2	79	13.6	18.2	14.2
CUB R nr Preston	APR-JUL	25	36	43	91	50	61	47

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
WOODRUFF NARROWS	57.3	44.0	8.5	---
WOODRUFF CREEK	4.0	3.1	1.7	---
BEAR LAKE	1421.0	576.2	299.5	992.6
MONTPELIER CREEK	4.0	3.0	0.7	1.6

BEAR RIVER BASIN
Watershed Snowpack Analysis - January 1, 1996

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	2	177	144
Bear River ab WY-ID line	7	148	118
Montpelier Creek	1	103	72
Mink Creek	1	98	95
Cub River	1	186	158
Bear River ab ID-UT line	13	140	117
Malad River	1	91	111

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report

Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and interbasin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report.

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
CLARK FORK R AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE
+ PEND OREILLE LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENAVILLE, ID - No Corrections
ST. JOE R AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
SPOKANE R AT LONG LAKE, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)

Clearwater River Basin

CLEARWATER R AT OROFINO, ID - No Corrections
DWORSHAK RESERVOIR INFLOW, ID
+ CLEARWATER R NR PECK, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)
NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)
PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
MORES CK NR ARROWROCK DAM, ID - No Corrections
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
CAMAS CK NR BLAINE, ID - No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE
SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PACIFIC CK AT MORAN, WY - No Corrections
SNAKE R ABV PALISADES RESV NR ALPINE, WY
+ JACKSON LAKE (STORAGE CHANGE)
GREYS R ABV PALISADES RESV, WY - No Corrections
SALT R ABV RESV NR ETNA, WY - No Corrections
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
SNAKE R NR HEISE, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
SNAKE R NR BLACKFOOT, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
PORTNEUF R AT TOPAZ, ID - No Corrections
AMERICAN FALLS RESERVOIR INFLOW, ID
+ SNAKE R AT NEELEY, ID
+ AMERICAN FALLS (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
+ TRAPPER CK NR OAKLEY, ID
SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
BRUNEAU R NR HOT SPRINGS, ID - No Corrections
OWYHEE R NR GOLD CK, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR ROME, OR
+ WILDHORSE RESV (STORAGE CHANGE)
+ JORDAN VALLEY RESV (STORAGE CHANGE)
OWYHEE RESERVOIR INFLOW, OR
+ OWYHEE R BLW OWYHEE DAM, OR
+ OWYHEE RESV (STORAGE CHANGE)
+ DIV TO NORTH AND SOUTH CANALS
SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
SNAKE R - KING HILL, ID - No Corrections
SNAKE R NR MURPHY, ID - No Corrections
SNAKE R AT WEISER, ID - No Corrections
SNAKE R AT HELLS CANYON DAM, ID
+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
SMITHS FORK NR BORDER, WY - No Corrections
THOMAS FORK NR WY-ID STATELINE - No Corrections
BEAR R BLW STEWART DAM, ID
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
+ TOTAL OF 12 CANALS
+ WESTFORK CANAL
+ DINGLE INLET CANAL
+ RAINBOW INLET CANAL
MONTPELIER CK NR MONTPELIER, ID
+ MONTPELIER CK RESV (STORAGE CHANGE)
CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS - Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. The table below lists these volumes for each reservoir in this report, and defines the storage volumes that NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage.

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS FIGURES INCLUDE
PANHANDLE REGION						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD + INACTIVE + ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE + ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD + INACTIVE + ACTIVE
CLEARWATER BASIN						
DWORSHAK	--	1452.00	2007.00	--	3459.0	INACTIVE + ACTIVE
WEISER/BOISE/PAYETTE BASINS						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	50.00	653.20	--	703.2	INACTIVE + ACTIVE
DEADWOOD	1.50	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	29.00	41.00	423.18	--	464.2	INACTIVE + ACTIVE
ARROWROCK	--	--	286.60	--	286.6	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE + ACTIVE
LAKE LOWELL	--	8.00	169.10	--	169.1	ACTIVE
WOOD/LOST BASINS						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE + SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD + INACTIVE + ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
OAKLEY	--	--	77.40	--	77.4	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE + ACTIVE
BEAR RIVER BASIN						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD + ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflows are for streamflow volumes that would occur naturally without any upstream influences Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast: it means that they need to evaluate existing cirumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River newa Deeth between March 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they detrmine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that tive out of every ten years with similar conditions would produce streamflow volumes greater that 36,000 acre-feet was more than they would like to risk, they might plan on receiveing 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<-------DRIER----------FUTURE CONDITIONS---------WETTER---------> Chance of Exceeding						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG)	30% (1000AF)	10% (1000AF)	25 YR (1000AF)
MARY'S RIVER	MAR-JUL	5.0	20.0	36	77	52	76	47
nr Deeth	APR-JUL	8.0	17.0	31	74	45	67	42
LAMOILLE CREEK	MAR-JUL	6.0	16.0	24	79	32	43	31
nr Lamoille	APR-JUL	4.0	15.0	22	75	30	41	30
NR HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts".

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USDA, Natural Resources Conservation Service
3244 Elder Street, Room 124
Boise ID 83705-4711

OFFICIAL BUSINESS

Issued by

Paul W. Johnson
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by

Luana E. Kiger
State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by

Peter L. Palmer, Data Collection Office Supervisor
Philip S. Morrisey, Hydrologist
Ron Abramovich, Water Supply Specialist
Gini Broyles, Statistical Assistant
Bill J. Patterson, Electronics Technician
Bill F. Hartman, Hydrologic Technician
Brendon Manzon, Computer Clerk